



Great Lakes Dredge & Dock Co.
River Mile 10.9 Removal Action at
Lower Passaic River Study Area
New Jersey

Great Lakes Dredge & Dock Company

Dredge Environmental Management Plan And Environmental Protection Plan

River Mile 10.9 Removal Action at Lower Passaic River Study Area

| Dredge Environmental Management Planrev4 | | | |
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| DREDGING, STABILIZATION AND CAPPING RIVER MILE 10.9 TCRA | | | |
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| We certify that the submittal has been reviewed, checked and approved for compliance with the Contract Documents | | | |



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1.0 INTRODUCTION

CH2MHILL has been contracted by the Lower Passaic River Study Area (LPRSA) Cooperating Parties Group (CPG) for the U.S. Environmental Protection Agency (EPA) – defined Time – Critical Removal Action (TCRA) to be conducted at River Mile (RM) 10.9 of the Lower Passaic River (LPR), site in Lyndhurst, New Jersey. Great Lake Dredge & Dock Company, LLC (GLDD) has been subcontracted by CH2MHill to dredge the surface sediments, to transport the dredge materials to a permitted treatment facility, for treatment and stabilization of the dredge sediments, and to cap the newly exposed sediment surface.

The RM 10.9 Study Area extends, bank to bank, between RM 10 and RM 12 of the Lower Passaic River Study Area (LPRSA) (Figure 1-1). The RM 10.9 Sediment Deposit Area, an area within the RM 10.9 Study Area, extends approximately 2,380 feet (ft.), from RM 10.65 to RM 11.1. The RM 10.9 Removal Area (Figure 1-2) is an approximately 5.6-acre area located on the eastern side of the LPRSA within the RM 10.9.

The project involves the following elements:

- Mechanically dredge the surface sediments (to an average depth of 2 ft. below existing grade, removing approximately 19,600 in situ cubic yards from the RM 10.9 Removal Area;
- Transport the dredged materials in barges to a permitted treatment facility for offloading and treatment by stabilization;
- Remove excess water from barges during offloading and store for transport to an off-site facility for treatment and discharge;
- Cap the newly exposed sediment surface; and
- Transport the treated sediments to an offsite disposal facility.

In addition, GLDD will be responsible for obtaining and renewing all relevant maritime vessel and port access approvals. CH2M HILL will be responsible for obtaining the following key environmental approvals:

- Clean Water Act 33 U.S.C. 1251, Section 404 Dredge and Fill Requirements
- Section 10 Rivers and Harbors Act of 1899/ Section 404 Clean Water Act
- Waterfront Development Permit (New Jersey Waterfront Development Law (NJSA 12:5-3)

As discussed with CH2M HILL, the Dredge Environmental Management Plan and the Environmental Protection Plan have been combined into one document to consolidate submittals and avoid duplication of information provided.



1.1 Mechanically Dredging of Surface Sediments

For dredging on the RM 10.9 Removal Area, a BECO hydraulic level-cut environmental clamshell bucket has been selected. The bucket is custom fabricated for this project to ensure proper sizing and reduce sediment re-suspension. Using this bucket, the slopes are to be step cut to minimize sloughing and slope collapse, while allowing the operator to maximize each bucket load. Silt curtains are to be installed also for sediment re-suspension control. Detailed descriptions of the equipment to be utilized, dredging activities to be conducted, and sediment re-suspension control can be found in the Dredge & Operations Plan. The Decontamination Plan defines procedures and equipment to be employed for decontaminating equipment, confirmation of decontamination, collecting/storing waste streams and methods of disposal of solids and liquids from decontamination activities. Procedures and equipment to be employed for separating, collecting and transporting debris removed during dredging can be found in the Debris Management Plan.

Dredging sequencing will be scheduled with tidal levels to allow access to the shallow areas at the highest tide levels. Based on the current scheduled of the project, the tide levels will allow for the dredging to begin at the southern limits of the project and proceed north (upper stations). Dredging will be done from the outer limits (offshore) working inward. This will allow for the maximum amount of water to be under the dredge and barges, minimizing the potential for barge to contact sediment and allowing for the maximum possible keel clearance for the tugs (minimize resuspension potential).

All dredge areas will be dredged in two (2) passes, allowing for any 'open excavation' area to have stepped slopes, minimizing the sloughing of material and allowing for the greatest amount of control.

1.2 Transport and Treatment of the Dredged Materials

Surface sediment removed from RM 10.9 Removal Area by mechanical dredging will be transported in hopper barges to a permitted facility for offloading and treatment by stabilization. Clean Earth Dredging Technologies, LLC (CEDT) – Koppers Dredged Material Processing Facility (DMPF), located at 1 Fish House Road, Kearny, New Jersey 07032 will be used for decanting, offloading, processing and stabilization of the dredge material from the RM 10.9 Removal Action.

CEDT operates a "fixed base" dredged material processing and transfer facility at a location on the Hackensack River in Kearny, New Jersey (the "Koppers DMPF"). The site is a waterfront parcel consisting of approximately 20 leased acres with nearly 350 feet of deep waterfront berth access. The facility has been developed to provide barge dewatering, debris removal, offloading and disposal and will be operating under an approved AUD permit.

Dredged materials will be transported to the offloading facility in watertight barges. Barges will be evenly loaded to prevent the load from shifting during transport and spilling dredged materials. Each barge will have clear draft markings



and sufficient freeboard will be maintained during loading to prevent dredged material from spilling during the full range of tow speeds, navigation maneuvers, and weather conditions likely to be encountered during transport of dredged material to the unloading facility. Freeboard heights will be monitored to address the tendency of free liquids to segregate and dredged materials to level during transport. Sufficient freeboard will be maintained that sudden speed or directional changes will not spill material. Measures for controlling spills at the unloading facility are described in the Dredged Material Processing Plan.

1.3 Excess Water Removal

Excess water will be removed from barges during offloading. The water will be pretreated and stored for transport to an offsite facility for treatment and discharge. The initial step in processing is the decanting of free water from the dredged sediments at the offloading facility. The hopper barges, loaded with dredged material, will likely contain excess free water which must be removed or decanted from the barges prior to offloading of the sediments. This decanting operation is accomplished by first providing an adequate period of mooring to allow solids to settle in the barge. After the initial barge settling period, portable pumps are utilized to pump the water to land based tanks (i.e. frac tanks and/or holding scows) for temporary storage.

Barge “de-watering” equipment will consist of portable sumps, hoses, and pumps, and a series of storage/settling tanks (frac tanks). Water decanted from the barges will be pumped using 2- to 6-inch hydraulic and centrifugal pumps through a double-walled piping system (hard pipe over soft hoses) into a series of manifolded 21,000-gallon portable storage/settling tanks. The excess decant water removed from the hopper barge will be allowed to settle in these tanks to remove sediment entrained during the decanting process. A bag filter system will be used to remove additional suspended solids prior to the removal by others for offsite transport and disposal in accordance with the Specifications.

1.4 Capping Exposed Sediment Surface

After the dredging operations, the newly exposed sediment will be capped with a layered reactive cap system which consists of the following elements:

- Sand layer
- Active layer
- Geotextile barrier
- Armor stone

Capping operations will be performed different equipment than utilized for the dredging works. During the mobilization period for the Capping operations, the dredge unit will be brought to Great Lakes’ Staten Island yard and modified for



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the installation of deck winches to operate on anchors and removal of the spuds so the barge can move freely over the work area without placing spuds through the cap materials.

An excavator and 80' conveyor will be mounted on the dredge barge that will be equipped with a GPS antenna to monitor its exact location. More detailed information related to capping operations and associated water quality controls/monitoring can be found in the project Capping Plan and Water Quality Monitoring Plan.



2.0 ENVIRONMENTAL MANAGEMENT STRUCTURE

2.1 Management Team

The GLDD on-site management team for the RM 10.9 Removal Action consists of:

- Project Manager – Todd King
- Construction Quality Control Manager – Mike Regan
- Site Safety and Health Advisor – Mike Regan

Project Manager

Mr. Todd King is the Project Manager (PM) for dredging and capping tasks on this project. PM duties and responsibilities include the following:

- Overall conformance to contract requirements and specifications, including technical, cost, and schedule;
- Oversee the implementation of our Environmental Management Plan;
- Overall responsibility for the success and proper execution of the project;
- Review of all required submittals;
- Allocation of sufficient resources, to ensure successful completion of the project;
- Supervision of the on-site personnel, subcontractors, and coordination with the CQC Manager;
- Review of all work in progress and submittals;
- Resolution of project quality issues;
- Development of field reports and associated documentation;
- Scheduling of activities and adhering to or adjusting the project schedule;
- Coordination with the CQC Manager the SSHA to ensure quality and safety of all field activities;
- Supervision and coordination of all project field activities;
- Overseeing spill prevention and any necessary cleanup action;
- Providing public notices, including notice to mariners and complying with statutory requirements; and
- Obtaining regulatory approvals, permits, and licenses .

Construction Quality Control Manager

The CQC Manager is Mr. Kevin Nelson. His responsibilities include:

- The overall management of the work and compliance with the contract plans and specifications;
- Responsible for monitoring the movements of hazardous waste to be removed from the site in accordance with the regulatory requirements, including tracking of barges shipped to the offloading and treatment facility and the maintenance of dredge material disposal log for shipment disposed of at an offsite disposal facility;
- Responsible for the environmental incident/non compliance register and corrective action report;
- Responsible for maintaining a complaints register;
- Responsible for maintaining water quality monitoring records;



- Responsible for the environmental controls monitoring logs and environmental monitoring checklist;
- Ensuring that all materials, workmanship, inspection, sampling, and testing are in compliance with contract documents, including drawings and specifications;
- Oversee all work related matters dealing with Safety and Quality Control;
- Ensuring subcontractors perform their assigned and contracted tasks in a quality manner;
- Providing QC oversight to subcontractor data collection and reporting efforts;
- Supervising collection and reporting of water quality monitoring data; and
- Project documentation, including Daily Quality Control Reports (DQCRs), inspection reports, photographs, etc.

Site Safety and Health Advisor

Mr. Kevin Nelson has been designated Site Safety and Health Advisor (SSHA) for dredging operations with the hydraulic dredge and will be responsible for:

- Ensure oversight and enforcement conduct field / facility safety inspections to ensure compliance with OSHA, EPA, DOT, USCG, and other regulations such as the US Army Corps of Engineers Safety & Health Manual, when applicable of the SSHSP;
- Monitor site activities for the duration of field activities;
- Responsible for reporting spills, fugitive dust and odor emissions, cultural/archeological discoveries, and waste management activities;
- Serve as a member of the QC staff on matters relating to health and safety;
- Maintenance of the Environmental Training Register for GLDD employees and subcontractors;
- Responsible for training the Subcontractor(s)' environment protection personnel;
- Halt work in consultation with the Project Manager and Project Superintendent if unacceptable health and safety conditions exist and take necessary action to re-establish and maintain safe working conditions;
- Monitor employees at the start of each work shift to be sure each is fit to perform the assigned tasks;
- Continually evaluate all supervised employees for safety knowledge, physical limitations, and current job knowledge;
- Ensure that each individual understands and follows the precautions to be taken to mitigate potential hazards;
- Provide specific safety instructions as part of the job instructions for each work assignment, based on first-hand knowledge of the tasks and the task environment; and
- Discuss the potential hazards of a given operation with appropriate personnel.

2.2 Environmental Training

Prior to construction a coordination meeting will be held to discuss administration of the environmental protection plan. This meeting will be held in conjunction with the preparatory meeting prior to the beginning of the work.

All personnel will be trained in environmental protection and pollution control. Prior to startup, written documentation will be provided that dredge operators have on the job experience or training in the proper operation and control of environmental clamshell buckets and associated machine control software equipment. All project personnel will be trained in environmental protection and pollution control and will meet the requirements of 29 CFR 1910.120 (HAZWOPER) Training. Written documentation will be submitted demonstrating that all applicable project personnel have received the required OSHA HAZWOPER training consisting of the initial 40-hour training and 8-hour annual



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updates. An environmental protection meeting will be held weekly with all available project personnel as well as spill response/reporting that will be discussed during the first meeting held. Subsequent meetings will include additional environmentally sensitive issues including methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection and pollution control. Anticipated hazardous or toxic chemicals or waste and other regulated contaminants will also be discussed.



3.0 ENVIRONMENTAL MANAGEMENT MEASURES

Environmental management measures for the following are included:

- Contaminated materials
- Capping materials
- Water quality
- Noise
- Dust and particulate matter
- Petroleum and chemical storage
- Waste disposal
- Water resources
- Natural resource features
- Odor

To comply with environmental management requirements, the following registers and reports will be prepared and maintained:

- Environmental training register
- Environmental incident/non- compliance register
- Environmental incident/non- compliance and corrective action report
- Complaints register
- Dredge material disposal log
- Water quality monitoring records
- Environmental controls monitoring logs
- Environmental monitoring checklist (Attachment C)

3.1 Contaminated Materials

The Processed Dredge Material (PDM) is the only contaminated material that requires testing/monitoring to confirm that the PDM meets the requirements for transportation and disposal. A sample of the PDM will be collected from stockpiling and staging pad at an interval of one for every 500 CY of Dredge Material (DM) Processed, or other mutually agreed to quantity by GLDD and CH2MHILL. Additional tests may be directed by CH2MHILL. Tests and inspections required to confirm compliance with the performance criteria in terms of successfully passing the paint filter test (USEPA Method 9095A) after a 15 minute vibratory period. Test methods will meet NJDEP regulatory requirements.

3.2 Capping Materials

In addition to the confirmation test required for the PDM, the sand and armor stone (rip rap) required for the layered cap will also be tested for gradation. The sand will be tested using ASTM Method D2487 at a frequency of one test per 1,000 cubic yards of sand. The armor stone (rip rap) will be tested using ASTM Method D5519 at a frequency of one test per 3,000 tons. The gradation tests will be conducted prior to delivery of the sand to the site. In addition to the



gradation tests, a single chemical analyses of the sand will be conducted to certify that the sand meets the USEPA requirements and NJDEP requirements for clean fill certification. These analytical testing parameters include:

1. TAL metals (excluding mercury) and titanium using EPA Method 6010C/6020A
2. SVOCs using EPA Method 8270C
3. PAHs and alkyl PAHs using a laboratory-specific SOP based on California EPA Air Resources Board Method 429 and NOAA ORCA 130 Method
4. PCBs (homologs and congeners) using EPA Method 1668A
5. PCDDs/PCDFs using EPA Method 1613B
6. Organochlorine pesticides using a laboratory-specific SOP based on USEPA Method 1699
7. Chlorinated herbicides using EPA Method 8151A
8. TPHs (extractable) using NJDEP Method OQA-QAM-025-02/08
9. Butyltins using a laboratory-specific SOP based on Krone 1988
10. Mercury, low-level using EPA Method 1631
11. Cyanide using EPA Method 335.2
12. VOCs using EPA Method 8260B

3.3 Water Quality

3.3.1 Water Quality Column Monitoring – Baseline

Water column monitoring will be conducted to establish a baseline. Baseline TSS samples will be collected every 4 hours for the initial 48 hours and daily thereafter. Upstream and downstream monitoring sites will be established as shown on the Contract Drawings, and at the mid-depth of the water column as identified in Water Quality Monitoring Plan. These readings will form the basis of comparison for the monitoring data collected for that day. Drawings showing the location of monitoring locations are including in the Dredge & Operations Plan.

Locations for the baseline monitoring will be:

- Buoy #1 - Downstream monitoring baseline location shall be established approximately 2,650 feet (0.5 mi/808 m) from the southern boundary of the Removal Area.
- Buoy #2 - Downstream monitoring location shall be established approximately 200' (61 m) from the southern boundary of the Removal Area.
- Buoy #3 - Upstream monitoring location shall be established approximately 200 feet (61 m) from the northern boundary Removal Area



- Buoy #4 - Upstream monitoring baseline location shall be established approximately 2,650 feet (0.5 mi/808 m) from the northern boundary of the Removal Area.
- Buoy #5 - Mobile buoy which shall be shifted as needed to continuously monitor the turbidity 50 feet (15 m) from the edge of the silt curtain surrounding the active dredging works, in the direction of the prevailing current.

3.3.2 Water Quality Column Monitoring - Dredging, Transportation

The water column will also be monitored during dredging, transportation and capping activities. Monitoring for turbidity and other parameters listed below using a backscatter nephelometer with an underwater sensor and direct surface readout. Monitoring equipment shall be maintained and calibrated in accordance with the manufacture's recommended procedures. Maintenance and calibration records will be submitted with daily monitoring reports submitted to CH2MHILL.

A GLDD Site Engineer assigned to the project on a full time basis who is thoroughly familiar with the turbidity monitoring equipment, will be notified automatically via email when the turbidity values approach Trigger or Action levels. If a notification occurs, the Engineer will monitor turbidity measurements in real-time to watch for any exceedances, or to confirm that the turbidity values have returned to an acceptable level. In addition, all events will be immediately reported by the Engineer to the dredging Superintendent, GLDD Project Manager and appropriate CH2M HILL personnel.

Turbidity monitoring shall be conducted at the following locations:

- Buoy #1 - Downstream monitoring baseline location shall be established approximately 2,650 feet (0.5 mi/808 m) from the southern boundary of the Removal Area.
- Buoy #2 - Downstream monitoring location shall be established approximately 200' (61 m) from the southern boundary of the Removal Area.
- Buoy #3 - Upstream monitoring location shall be established approximately 200 feet (61 m) from the northern boundary Removal Area
- Buoy #4 - Upstream monitoring baseline location shall be established approximately 2,650 feet (0.5 mi/808 m) from the northern boundary of the Removal Area.



Buoy #5- Mobile buoy which shall be shifted as needed to continuously monitor the turbidity 50 feet (15 m) from the edge of the silt curtain surrounding the active dredging works, in the direction of the prevailing current.

3.3.3 Water Quality Monitoring Parameters

Water quality monitoring at the Buoy #1 through #4 will include the following parameters:

- Turbidity
- pH
- Temperature

Water quality monitoring at Buoy #5 will include the following parameters:

- Turbidity
- pH
- Temperature

3.3.4 Water Quality Monitoring Frequency and Duration

Turbidity monitoring will be collected every 15 minutes continuously using a data logger during all site dredging and capping. The data logger shall be compatible with selected monitoring equipment.

Monitoring will commence at least one (1) month prior to commencement of dredging and capping operations and continue until one (1) week after completion of dredging/capping operations, or as otherwise directed by CH2MHILL.

Water quality action levels, QA/QC for monitoring activities, and data reporting are discussed in the Water Quality Monitoring Plan.

3.4 Noise

Construction activities will be kept under surveillance and control to minimize noise in accordance with local and state noise ordinance limits. Work shall be limited to daylight hours - 12 hours/day, 6 days per week. Dredging and capping activities will normally take place Monday through Saturday; however, work could be rescheduled due to equipment maintenance requirements, adverse weather, or other events and activities affecting the ability to operate during



regularly scheduled periods. The specific start times will vary due to seasonal changes in hours of daylight. Noise limits at monitoring locations shall not exceed the maximum hourly average indicated in the table below.

| Noise Level Monitoring Station | Location | Maximum Hourly Average | |
|--------------------------------------|---|------------------------|---------|
| | | Daytime | Evening |
| 1 | North perimeter 100 ft upstream of Removal Area on east shore | 75 dBA | 65 dBA |
| 2 | South perimeter 100 ft downstream of Removal Area on east shore | 75 dBA | 65 dBA |
| 3 | Center perimeter of Removal Area on east shore | 75 dBA | 65 dBA |

Day is defined as the period from 7:00 a.m. to 6:00 p.m., Monday to Saturday; evening is defined as the period from 6:00 p.m. to 10:00 p.m.

The Site Specific Health and Safety Plan requires noise exposure to be controlled to occupational noise levels of 85 decibels, A-weighted, (dBA) and above by implementing a hearing conservation program that meets the requirements of the OSHA Occupational Noise Exposure standard, 29 CFR 1910.95. A noise assessment may be conducted by the RHSM or designee based on potential to emit noise above 85 dBA and considering the frequency and duration of the task.

3.5 Dust and Particulate Matter

Dredged materials will be handled and transported in a wet condition to the offloading and treatment facility operated by Clean Earth. The particulate control measures required by facility's permit will be employed to meet emission requirements.

At staging and storage areas for supplies, good housekeeping measures will be used to control fugitive dust, including removing mud and dirt from traffic ways when possible and hosing dirt into collection sumps. In the event that excessive fugitive dust is observed, additional dust control measures will be implemented. Fugitive dust complaints will be investigated by GLDD SSHA to determine the source and options available to mitigate the nuisance.

3.6 Petroleum or Chemical Storage

A Spill Response Plan (SRP) will be prepared that addresses potential petroleum and chemical spills. A Spill Response Plan is included in Attachment A, and a Fueling Plan is included in Attachment B.

The Site Specific Health and Safety Plan addresses chemicals anticipated to be on site. Material Safety Data Sheets (MSDS) will be kept on site for chemicals stored or used on site. The Site Health and Safety Advisor will be responsible for keeping updated records of the chemicals maintained on site and tracking the maximum anticipated quantity. The SRP describes spill control procedures and includes:

- A list of materials and equipment to be immediately available at the job site



- The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material placement equipment available in case of an unforeseen spill emergency.
- The methods and procedures to be used for expeditious contaminant cleanup

Storage of hazardous materials on-site will comply with OSHA, NFPA and either International Fire Code/Uniform Fire Code (IFC/UFC), depending what has been adopted by the local government, requirements.

The following OSHA, NFPA, and IFC/UFC good management practices will be applied for storing petroleum or chemicals, applicable to all storage situations:

- Apply hazard warning labels and clearly mark the contents of the container.
- Locate portable storage tanks (including trucks containing product), 55-gallon drums, and other small containers to prevent spilled oil from reaching navigable waters.
- Provide secondary containment (e.g., dikes, basins, or spill pallets) that can hold the contents of the largest container stored in the area.
- Keep drums and portable tanks inside covered storage areas when possible.
- Small containers of gasoline and other flammable liquids should be kept in appropriately marked and placarded cabinets. State and local fire codes, as well as OSHA Fire Protection Standards, that prescribe the appropriate location of, and spacing for, storage of portable containers holding flammable liquids will be followed. Store flammable liquids and flammable solids (e.g., rags) only in UL approved containers.

3.7 Waste Disposal

Municipal Trash

The generation of solid waste or municipal trash will be minimized to the extent possible. Wastes that cannot be readily recycled, such as lunch waste and plastic packaging, will be consolidated and disposed of as municipal solid waste. Care will be exercised so that trash and industrial solid wastes are segregated and not mixed.

Debris

Debris from dredging or clearing activities will be handled in accordance with the Debris Management Plan.

Aerosol Cans

Aerosol that contain paint, solvents, or some other material and will be punctured with a device that can safely puncture the can, contain the residual contents, and filter excess propellant). This process releases residual propellant from the can, making it safe for disposal as a solid waste or to be sold as scrap. The MSDS will be consulted to determine proper disposal of residual contents from the aerosol cans..

Batteries



Nickel-cadmium and small sealed lead-acid batteries are found in many common items in businesses and field projects, including electronic equipment, mobile telephones, portable computers, and emergency backup lighting. Batteries are universal wastes and shall be managed as follows:

- Batteries that show evidence of leaking, spills, or damage shall be contained in a structurally sound, compatible container that shall remain closed at all times.
- Intact batteries and closed containers may be handled as follows:
 - Sort batteries by type
 - Discharge batteries
 - Disassemble batteries or battery packs into individual batteries or cells
 - Remove batteries from consumer products
 - Remove electrolytes from batteries
 - Monitor and inspect the piles at least weekly
 - Do not accumulate more than 100 kg (220 lb) in one month
 - Do not hold the batteries for more than one year. Most recycling facilities will collect the batteries. Check your local office for a battery recycling program.

Gas Cylinders

Used gas cylinders will be completely empty (i.e., gauge reads zero) before being disposed of. They will either be sent back to the supplier, or, in the case of calibration gas cylinders, disposed of in the trash.

Used Absorbent Materials, Oily Rags

Used absorbent pads and oily rags will be separated by the type of contaminant that may be on them. Used rags and paper towels are likely to be a hazardous waste if they are contaminated with solvent. If the solvent used contained an F-listed chemical at a concentration of 10 percent or greater, the contaminated rags or towels will be handled as hazardous waste. Used rags characterized as hazardous waste will be laundered (recycled) by an industrial laundry or disposed of as a hazardous waste. Generally, environmentally friendly solvents are used to avoid creating such wastes.

Used absorbent pads and oily rags can also be subject to spontaneous combustion. Therefore, they will be collected in approved cans (most of these cans are metal).

If used absorbent pads or rags are hazardous, they will not be discarded in trash. Used oily rags and pads can be discarded in the trash if they are not ignitable.

Used Oil/Oil Filters

Used oil and/or oil filters generated during the performance of equipment preventative maintenance will be handled in the following manner. Used oil will be collected and stored in a designated 55-gallon steel drum and labeled accordingly. During the demobilization phases of the project, the used oil will be transported from the dredge barge to



the Staten Island GLDD facility where it will be offloaded and transported/disposed of in accordance with all local, state and federal regulations. Oil filters will be placed at an angle and allowed to drain for at least 24 hours. The oil from the filter will be collected and placed with the used oil. The oil filter will be punctured and then recycled as scrap metal or discarded of in the trash.

Soils Contaminated by Spills

Soil contaminated with spilled hydraulic fluid, diesel fuel, or oil will be removed in accordance with the Spill Response Plan and discarded or remediated in accordance with state regulations.

3.8 Water Resources

The land-based activities will not disturb more than one acre, therefore, a Storm Water Pollution Prevention Plan (SWPPP) or an Erosion and Sediment Control Plan are not required.

3.9 Natural Resource Feature Protection

The protection of natural resource features is discussed in the Dredge and Operations Plan. Prior to intrusive activities, GLDD will submit to CH2M HILL for review, a report and drawing to identifying any land features outside the remedial action limits that may require protection. These features will be clearly marked/protected to ensure that no damage occurs.

3.10 Odor

The SSHA is responsible for reporting spills, fugitive dust and odor emissions, cultural/archeological discoveries, and waste management activities. Odor complaints will be investigated by GLDD SSHA to determine the source of the odor and options available to mitigate the nuisance odor.

3.11 Solid Waste Disposal Facilities

Solid waste disposal contractors responsible for the transportation and disposal of solid waste will be identified prior to making arrangements for transportation and disposal. No waste shall leave the site until such a time that the proposed vendor has been fully approved by CH2M HILL. Licenses, permits, and/or additional approvals will be submitted for solid waste disposal sites that are not commercial operating facilities. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this Plan prior to transportation.



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ATTACHMENT A

SPILL RESPONSE PLAN



1. OVERVIEW

The Spill Response Plan is to be initiated when the trigger-point quantity is exceeded by the substance spilled. According to Federal Regulations, any amount of oil spilled is to be reported or at least any amount that causes sheen on the water or land. If a spill occurs, the Project Superintendent is responsible for immediately contacting CH2M HILL, who will then contact the appropriate agencies/individuals listed below. The Superintendent will be responsible for the initial implementation and supervision of the spill and the Project Manager will follow up with continuing containment and cleanup management.

GLDD personnel have used and/or are familiar with oil spill equipment kept in our inventory (i.e. oil absorbent rags, oil booms, shovels, etc.). Equipment is kept available and ready for use.

2. SPILL RESPONSE

2.1 Oil Spill Prevention Measures

As with any offshore project, the potential exists for an oil spill. Such spills are generally extremely small and result in no significant impact to the marine environment. The proposed project plan includes measures designed to reduce the potential of an operational spill to the maximum extent possible.

In the event an oil spill were to occur in association with offshore operations, GLDD has developed a response plan to quickly and effectively contain and recover any released oil. During the proposed project, the potential for an oil spill would be greatest in two operational areas of the project:

1. On shore at the processing/staging areas
2. Offshore at the workboat or barge location

In the event of an oil spill in one of these operational areas, GLDD will respond with on-site personnel and equipment. Throughout any response effort, GLDD will interact with CH2M HILL and federal, state and local government agencies as necessary.

2.2 Response Team

GLDD will establish a response team consisting of an Onsite Response Team (ORT). This team would be under the direction of the Project Superintendent, and are designed to provide GLDD with the capability to respond quickly and effectively to a spill event.

If a spill occurs at the project site, the initial response will be carried out by on-site personnel assigned to the ORT, who will utilize onsite response equipment. If the ORT requires immediate assistance, the Project Superintendent will assign as many additional offshore personnel as needed to carry out response operations.



2.3 *Onshore Spill Scenarios and Response Procedures*

2.3.1 Onshore Spill Scenario (Minor Spill) – the potential for a minor onshore spill during the project would be associated with the operation and utilization of equipment for material processing. In the event of a release of oil, diesel fuel, or contaminated water, the following procedures will be implemented by the ORT utilizing the onsite equipment listed in 2.3.2.

2.3.2 Onsite Equipment for Minor Onshore Spill Response

Quantity: 15 sorbent pads & 2 shovels. If additional sorbent pads and/or sorbent boom are needed, they will be supplied by GLDD's main office stock or the following supplier:

IWT Cargo-Guard Order by Phone: (609) 971-8810

2.3.3 Response Procedures (Minor Spill)

a. Onsite Response Team

Action: In the event of a spill during the project, the ORT shall:

1. Assess spill size and determine whether such a spill can be safely and rapidly controlled. Onsite personnel shall immediately conduct containment control operations
2. As soon as possible, notify the project manager and provide information on:
 - The source of the spill
 - The type of product spilled
 - The status of control operations
3. At direction of the project superintendent, onsite personnel shall deploy appropriate equipment and carry out response and recovery operations.
 - Onsite absorbent materials and equipment shall be utilized to recover released oil, diesel, etc.
 - Any contaminated soils shall be removed and/or remediate as per state regulations.
 - Oil sorbent materials shall be properly stored in suitable containers or plastic bags.
 - Oil sorbent materials shall be disposed of at a state approved disposal site approved by CH2M HILL and USEPA.



b. Project Superintendent

Action: In the event of an onshore spill, the Project Superintendent shall:

1. Account for all personnel and ensure their safety.
2. Determine whether there is a threat of fire or explosion.
3. If a threat of fire or explosion exists, suspend all control and/or response operations until threat is eliminated.
4. Assess the spill situation:
 - Determine the status of response operations.
 - Estimate the spill volume.
 - Determine whether containment bins and vacuum trucks are required to respond to spill.
5. Notify CH2M HILL who will then notify the appropriate government agencies.
6. Supervise response, clean-up and storage operations
7. Complete response, clean-up and storage operations.
8. File appropriate written reports to government agencies.

2.3.4 Onshore Spill Scenario (Small Scale Spill)

Onsite equipment and personnel will be utilized to contain and remediate a spill during onshore operations. The following procedures shall be implemented utilizing the onshore resources.

2.3.5 Onshore Spill Response (Small Scale Spill)

a. Project Superintendent

Action: In the event of spill during the project that exceeds the capability of onsite personnel and equipment the project superintendent shall:

1. Mobilize additional project personnel/equipment from the GLDD Staten Island location.



2. Assess the spill situation and request additional personnel, if required.
3. Assess equipment availability.
4. Supervise ORT in the incorporation of equipment and personnel into response and recovery operations.

2.4 *Offshore Spill Scenarios and Response Procedures*

2.4.1 Offshore Spill Scenario (Minor Spill)

The potential for an offshore spill during the project would be from the leaking of the fuel or lubrication fluids. In the event of a release of oil or contaminated water, the following procedures will be implemented using offshore equipment listed below:

2.4.2 Offshore Equipment

- a. Tugs & Barges
- b. Several bales of absorbent pads
- c. Enough 50' sections of absorbent oil boom to encompass the largest barge onsite.
- d. 1 gallon of Ecosolve 2000

2.4.3 Offshore Spill Response (Minor Spill)

- a. Onsite Response Team

In the event of an offshore spill during the project, the ORT shall:

1. Assess the spill size and determine whether such a spill can be safely and rapidly controlled. Onsite personnel shall immediately conduct containment control operations.
 - Shutdown operations
 - Turn off all sources of ignition
 - Deploy sorbent boom
2. As soon as possible, notify the project manager and provide the following information:



- The type of product spilled.
- The status of control operations.

3. Maintain source and oil slick surveillance.

4. At the direction of the project superintendent, offshore personnel shall deploy appropriate equipment and carry out response and recovery operations.

- Oil sorbent materials and any other oily debris recovered during response operations shall be stored in suitable containers or plastic bags.
- Oil sorbent materials shall be disposed of at a state approved disposal site approved by CH2M HILL and USEPA.

b. Project Superintendent

Action: In the event of an offshore spill during the project, the Project Superintendent shall:

1. Account for all personnel and ensure their safety.
2. Determine whether there is a threat of fire or explosion.
3. If a threat of fire or explosion exists. Suspend all control and/or response operations until the threat is eliminated.
4. Assess the spill situation by:
 - Determine the source of the spill.
 - Determine the status of response operations
 - Estimate the spill volume
 - Estimate the speed and direction of the spills movement.
 - Determine whether offshore containment and recovery equipment is sufficient to respond to the spill situation successfully and completely.
5. Notify CH2M HILL, who will then notify the appropriate government agencies.
6. Supervise response, clean-up and storage operations.
7. Complete response, clean-up and storage operations.



8. File written reports with appropriate government agencies.

2.4.4 Offshore Spill Scenario (Small Scale/Major Spill)

In the event the offshore sorbent boom and personnel are insufficient to contain and remediate a spill during project operations, the following shall be implemented:

Note: The potential for a major spill during offshore operations are considered to be remote due to size of the project.

- a. Project Superintendent

In the event of an offshore spill, the following procedures will be followed:

1. If it is determined the offshore containment and recovery equipment is not adequate to respond to the spill, the Project Superintendent shall contact a spill control contractor. GLDD maintains a service agreement with:

Clean Harbors
Emergency Response Number 800-645-8265

2. Supervise the incorporation of the spill contractors equipment and personnel into the containment and recovery of the operations of the ORT.
3. Spill control contractor offshore response equipment shall be deployed as available for spill response.



3. EMERGENCY CONTACT LIST

| AGENCY | TELEPHONE NUMBERS |
|--|--|
| EMERGENCY | 911 |
| FIRE DEPARTMENT -Kearny Fire Department 109 Midland Avenue, Kearny, NJ 07032 Lyndhurst Fire Department 299 Delafield Avenue, Lyndhurst, NJ 07071 | 201-992-1402 201-804-2441 |
| POLICE – Kearny Police Department 237 Laurel Avenue, Kearny, NJ 07032 Lyndhurst Police Department 367 Valley Brook Avenue, Lyndhurst, NJ 07071 | 201-998-1313 201-939-2900 |
| HOSPITAL- Jersey City Medical Center 355 Grand Street, Jersey City, NJ 07302 | ER 201-324-5000 |
| POISON CONTROL CENTER | 1-800-222-1222 |
| NATIONAL RESPONSE CENTER (NRC) | 1-800-424-8802 |
| REGION 2 EPA REGIONAL OFFICE | 1-212-637-4050 |
| NJDEP-BUREAU OF EMERGENCY RESPONSE | 1-877-927-6337 |
| CHEMTREC | 1-800-262-8200 |
| GLDD CORPORATE S.H.E. MANAGER Glenn Thomas, 2122 York Road, Oak Brook, IL | Office 630-574-3000 Cell 410-340-7152 |
| GLDD PROJECT MANAGER Todd King, 2705 Richmond Terrace, Staten Island, NY 10303 | Office 718-981-2700 Cell 630-272-6494 |
| GLDD SITE SUPERINTENDENT John Paal, 92705 Richmond Terrace, Staten Island, NY 10303 | Cell 630-209-4892 |
| GLDD SITE HEALTH & SAFETY OFFICER Mike Regan, 92705 Richmond Terrace, Staten Island, NY 10303 | Cell 248-388-7405 |



Great Lakes Dredge & Dock Co.
River Mile 10.9 Removal Action at
Lower Passaic River Study Area
New Jersey

ATTACHMENT B

FUELING PLAN



1.0 Overview

Fueling operations for this project will occur in three distinct types: Upland fueling, Upland to Marine fueling, and Marine fueling. All equipment fueling procedures and practices will be designed to prevent fuel spills and leaks. Regardless of type of fueling, absorbent pads, booms and fire extinguishers shall be present at all fueling locations.

2.0 Methods

2.1 Personnel Qualifications

Field personnel must be health and safety certified as specified by the Occupational Safety and Health Administration (OSHA) (29 CFR 1910.120(e)(3)(i)) to work on sites where hazardous materials may be present. It is the responsibility of the field personnel to be familiar with the procedures outlined within this plan and the health and safety requirements for this project

2.2 Health and Safety

The health and safety considerations for the work associated with this plan, including both potential physical and chemical hazards, are addressed in the site specific HASP and task specific Job Safety Analyses (TSA) forms. All work will be conducted in accordance with these HASPs and JSAs.

2.3 Equipment and Supplies

- Absorbent pads and booms
- Fire extinguishers
- Grounding cables
- Personal Protection Equipment

2.4 Procedure

At each fueling location, the following will apply:

- Fuel operator will communicate to any operator in a piece of equipment before entering their work zone
- The operator will always wear eye protection
- Prior to fueling, perform pre-fueling safety checks
- Ensure all equipment is turned off to reduce the likelihood of an explosion
- Inspect the area for any type of hot work being conducted and postpone fueling if this hot work is being done in the area
- Make sure everyone is aware that you are in the area and are about to begin fueling
- Ensure that the grounding cable has a good connection between the fuel tank and the equipment being fueled

The fuel operator will be instructed to the location of the spill kit and fire extinguisher

No fueling will occur until these checks are accomplished

The fuel operator must check the dispenser hoses for cracks, holes, or leaks. The operator must notify the site supervisor before refueling, if any problems are observed

The fuel operator should not take his eyes off the nozzle while fueling to help reduce the risk of a possible spill

The fuel operator will check to make sure the grounding cables are attached properly



The operator will always keep a good metal to metal contact between the nozzle and the fuel tank
The operator will not overfill the fuel tank

Upland Fueling - Special Considerations

Special considerations for Upland Fueling include:

Prior to fueling, equipment must be parked with enough space to travel between the pump and the equipment
Fuel will only be dispensed from mobile or portable tanks
Fueling will only occur in specified, level-grade locations at least 150 feet from any water body
When fueling occurs, spill control equipment will be set up under/around the fueling operation so that if a spill occurs, it will be immediately captured

Upland to Marine Fueling - Special Considerations

The following special considerations shall be utilized:

Several methods may be employed for the fueling of equipment located on the deck barge (excavator, winches, generator, etc.) from land. One method consists of fueling equipment via transfer of fuel from a Fuel Tanker to fuel tank on a piece of equipment or storage tank located on the deck barge. A second method consists of the transfer of specialized fuel cell from the upland dredge processing location to the outer deck of the material transport barge. The fuel cells are specially designed to be lifted while full of fuel and placed on deck. The fuel containers will be staged at the dredge processing facility where they will be filled via fuel truck.

The fuel operator will re-check the dispenser hoses for cracks, holes, or leaks. The operator must notify the site supervisor before refueling, if any problems are observed Fuel lines will not be allowed to enter the water.
Fuel transfer from upland to marine vessel shall be performed in an area of sufficient lighting so that any leak or spill that may occur during night operations will be seen and so that operations can be halted in a timely manner.
Absorbent booms and pads are to be readily available in close proximity to the fuel operations to allow timely deployment if necessary.

Marine Fueling - Special Considerations

In order to fuel safely and responsibly on water, all general considerations apply and the following special considerations apply:

Before beginning to fuel:

- Tie the fueling boat securely to the vessel to be fueled.



- Do not allow anyone in your group or others at the fuel point to smoke or strike a match. Check to see that fuel lines, are adequate in length to accommodate movement between vessels or in vessel draft as fuel is transferred. The hoses, connections, and fuel vents are to be checked to be in good condition.
- Turn off anything that might cause a spark—engines, fans, or electrical equipment.
- Shut off all fuel valves and extinguish all open flames, such as galley stoves and pilot lights.
- Make sure that your fire extinguisher is within reach.
- The fuel transfer system is to be attached on the supply vessel.
When a vessel is receiving fuel, an automatic back pressure shutoff nozzle is to be used to prevent overflow.

While filling the fuel tank:

- Keep the nozzle of the fuel-pump hose in solid contact with the tank opening to prevent producing a static spark.
- Use caution and fill the tank slowly to avoid spilling fuel into the boat's bilge or into the water. Use an oil-absorbent pad to catch drips or spills.
- Never fill a tank to the brim—leave room for fuel to expand.

After fueling:

- Put the fill cap on tightly to prevent vapors from escaping.
- Wipe up any spilled fuel and properly dispose of the used paper towels or rags on shore.
- Open all windows, ports, doors, and other openings.
- If the vessel is equipped with a power ventilation system (exhaust blower), turn it on for at least four minutes before starting the engine. This will help eliminate fuel vapors in the bilge.
- Before starting the engine, check the bilge and engine compartment for fuel vapors, if appropriate. Continue ventilating until fuel vapors cannot be detected.
- Start the engine and continue work activities.



Great Lakes Dredge & Dock Co.
River Mile 10.9 Removal Action at
Lower Passaic River Study Area
New Jersey

ATTACHMENT C

ENVIRONMENTAL INSPECTION CHECKLIST



ENVIRONMENTAL MONITORING CHECKLIST

Project: _____

Inspector: _____

Date: _____

| | Item | | Yes | No | Action Required |
|----|--|--|-----|----|-----------------|
| 1 | Emergency Numbers Posted | | | | |
| 2 | Employee HAZWOPER Training | | | | |
| 3 | Turbidity Monitors Operational | | | | |
| 5 | Turbidity Barrier Integrity Acceptable | | | | |
| 6 | Oil Sorbent Boom Integrity Acceptable | | | | |
| 4 | Noise Levels Acceptable | | | | |
| 7 | Equipment Leaks | | | | |
| 8 | Hydraulic Hose Leaks | | | | |
| 9 | Fuel Dispensor Secured | | | | |
| 10 | Fuel Tank Secured | | | | |
| 11 | Hazardous Materials Properly Stored | | | | |
| 12 | Waste Materials Properly Stored | | | | |
| 13 | Emergency Spill Kit Access | | | | |
| 14 | Fire Extinguishers present/inspected | | | | |
| 15 | First Aid Kits Available | | | | |